

Machine Tool Technology

The Machine Tool Technology program provides training for entry-level positions in precision metalworking careers. Manual and computer numerically controlled (CNC) machines are used to develop trainee skills. The students will learn to operate lathes, mills, engine lathes, surface grinders, and other precision equipment. Graduates of this program are prepared to work in machine shops, quality control, and maintenance or production.

Program Learning Outcomes (PLO)

After completing the AAS in Machine Tool Technology degree, students will be able to:

PLO 1: Demonstrate their knowledge of safety with open discussion and presentation.

PLO 2: Demonstrate their knowledge of the operation of a manual lathe by the completion of the final project.

PLO 3: Demonstrate their knowledge of the operation of a manual mill by completion of the final project.

PLO 4: Write a CNC mill program; set up the mill; and machine a part based on given parameters and instructions.

PLO 5: Write a CNC lathe program; set up the lathe; and machine a part based on given parameters and instructions.

PLO 6: Write a CNC program using a CAM program on the CNC lathe and CNC mill based on given parameters and instructions.

Courses Measuring the Achievement of Program Learning Outcomes

<u>Course</u>	<u>PLO 1</u>	<u>PLO 2</u>	<u>PLO 3</u>	<u>PLO 4</u>	<u>PLO 5</u>	<u>PLO 6</u>
MCHN 1438	X	X	X			
MCHN 2434				X		
MCHN 2431					X	
MCHN 2438						X

MACHINE TOOL TECHNOLOGY RECOMMENDED ACADEMIC PLAN

1ST YEAR, 1ST SEMESTER			Credit Hours	✓
<i>Term 1</i>				
MCHN	2431	Operation of CNC Turning Centers	4	<input type="checkbox"/>
ENGL	1301	Composition	3	<input type="checkbox"/>
STSU	0300	Student Success	0	<input type="checkbox"/>
<i>Term 2</i>				
TECM	1301	Industrial Mathematics	3	<input type="checkbox"/>
MCHN	1438	Machining I	4	<input type="checkbox"/>
			14	
1ST YEAR, 2ND SEMESTER				
<i>Term 1</i>				
MCHN	1441	Basic Machine Shop II	4	<input type="checkbox"/>
MCHN	1190	Special Topics in Machine Shop Assistant	1	<input type="checkbox"/>
<i>Term 2</i>				
WLDG	1337	or DFTG 1325	3	
SOCI	1301	Introduction to Sociology	3	<input type="checkbox"/>
MCHN	2434	Operations of CNC Machining Centers	4	<input type="checkbox"/>
* Earned: <i>Level 1 Certificate in Machine Tool Technology - Computer Numeric Control</i>			15	
2ND YEAR, 1ST SEMESTER				
<i>Term 1</i>				
WLDG	1428	or DFTG 1409	4	<input type="checkbox"/>
SPCH	1318	Interpersonal Communication	3	<input type="checkbox"/>
MCHN	1191	Special Topics in Machinist/Machine Technologist	1	<input type="checkbox"/>
<i>Term 2</i>				
MCHN	1452	Intermediate Machining I	4	<input type="checkbox"/>
ARTS	1301	Art Appreciation	3	<input type="checkbox"/>
* Earned: <i>Level 1 Certificate in Machine Tool Technology - Operator</i>			15	
 Apply for Graduation				
2ND YEAR, 2ND SEMESTER				
<i>Term 1</i>				
PHYS	1305	Elementary Physics	3	<input type="checkbox"/>
MCHN	1426	Introduction to Computer-Aided Manufacturing	4	<input type="checkbox"/>
<i>Term 2</i>				
MCHN	2438	Advanced Computer-Aided Manufacturing	4	<input type="checkbox"/>
MCHN	1454	Intermediate Machining II	4	<input type="checkbox"/>
MCHN	1191	Special Topics in Machinist/Machine Technologist	1	
* Earned: <i>Associate of Applied Science in Machine Tool Technology</i>			Total Hours	60

*Technical Math courses (TECM) do not satisfy the core general education Natural Science/Mathematics requirement.